

How can government make better use of expertise and evidence from the humanities?

Centre for Science and Policy Annual Conference
#CSaP2015

14 April 2015

Murray Edwards College and Churchill College

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The multiple dimensions of climate change

Arthur Petersen

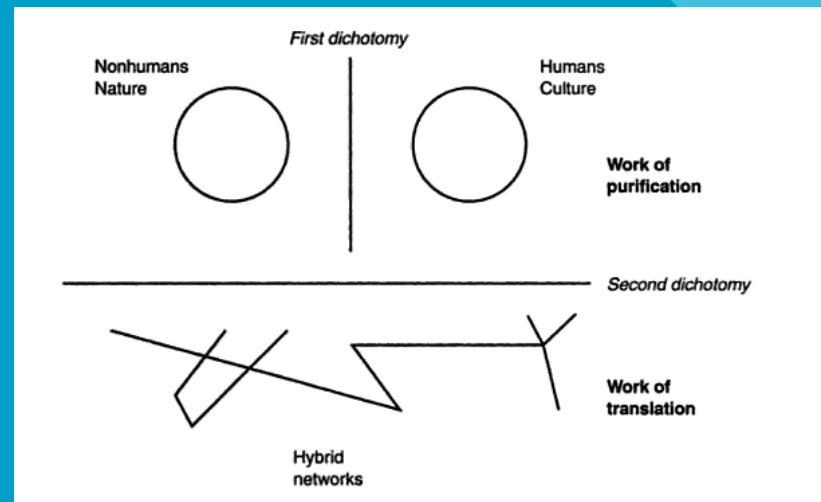
CSaP Annual Conference 2015, Cambridge, 14 April 2015

The multiple dimensions of climate change

Humanities in IPCC reports

Humanities of IPCC reports

Worldviews



1 A major advance of this assessment of climate change
2 projections compared with the TAR is the large number of
3 simulations available from a broader range of models
4 which Taken together with new approaches to improved
5 constraints derived from observations, these provide a
6 quantitative basis for estimating likelihoods of expected
7 warming. Model simulations ~~consider~~cover a range of possible
8 futures including idealised emission or concentration
9 assumptions. These include SRES¹¹ illustrative marker
10 scenarios for the 2000–2100 period and model experiments with
11 greenhouse gases and aerosol concentrations held constant after
12 year 2000 or 2100. This Working Group I assessment does not
13 consider the plausibility or likelihood of any specific emission
14 scenario.^{11A}



Humanities in IPCC reports

The latest IPCC Working Group II report (2014):

“Issues of equity, justice, and fairness arise with respect to mitigation and adaptation.⁵”

⁵ See FAQ 3.2 for clarification of these concepts. The philosophical literature on justice and other literature can illuminate these issues [3.2, 3.3, 4.6.2].”



Humanities in IPCC reports

The latest IPCC Working Group II report (2014):

“Many areas of climate policy-making involve value judgements and ethical considerations. These areas range from the question of how much mitigation is needed to prevent dangerous interference with the climate system to choices among specific policies for mitigation or adaptation [3.1, 3.2]. Social, economic and ethical analyses may be used to inform value judgements and may take into account values of various sorts, including human wellbeing, cultural values and non-human values. [3.4, 3.10]”

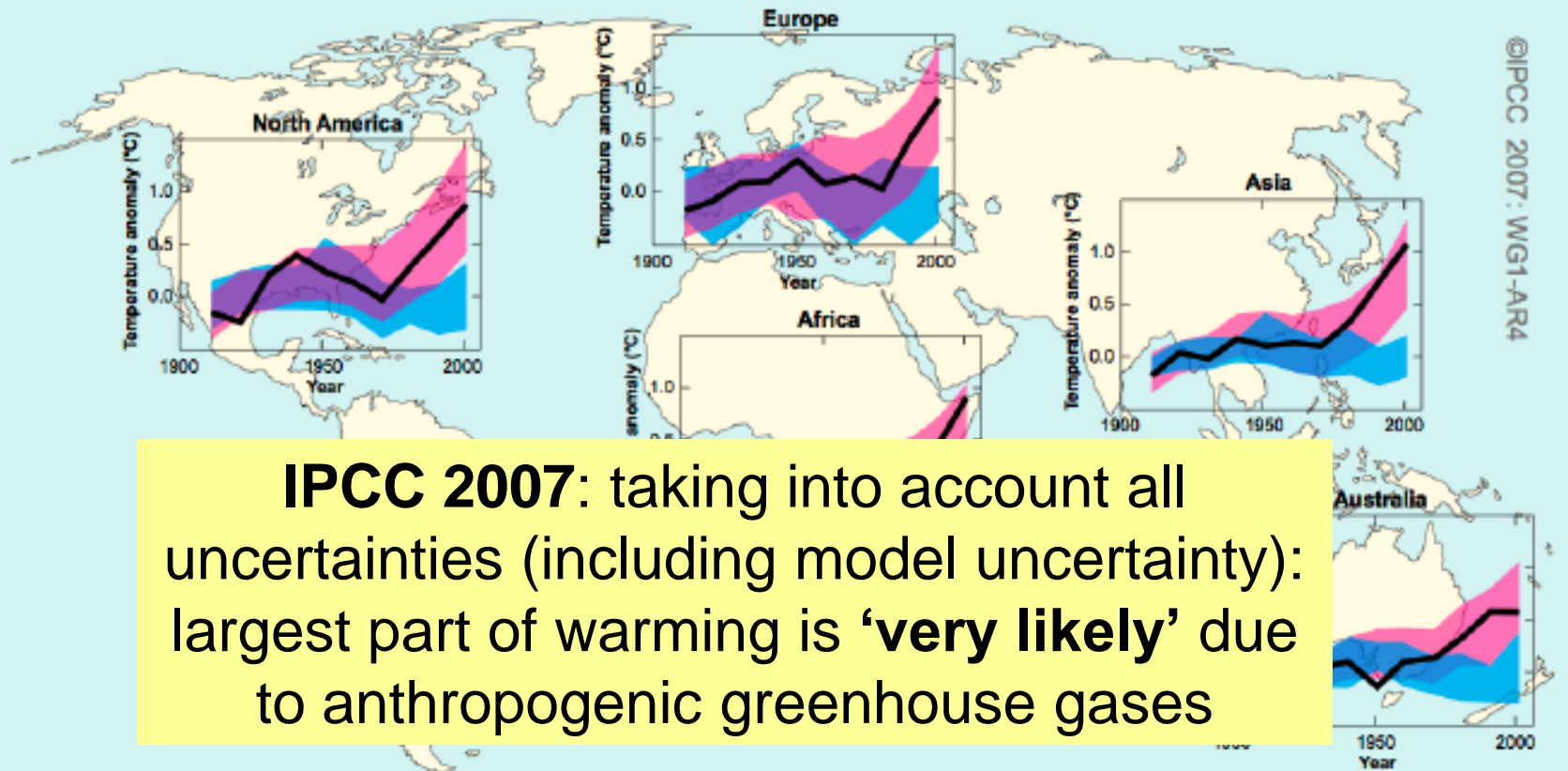
Humanities of IPCC reports

The previous IPCC Working Group I report (2007):

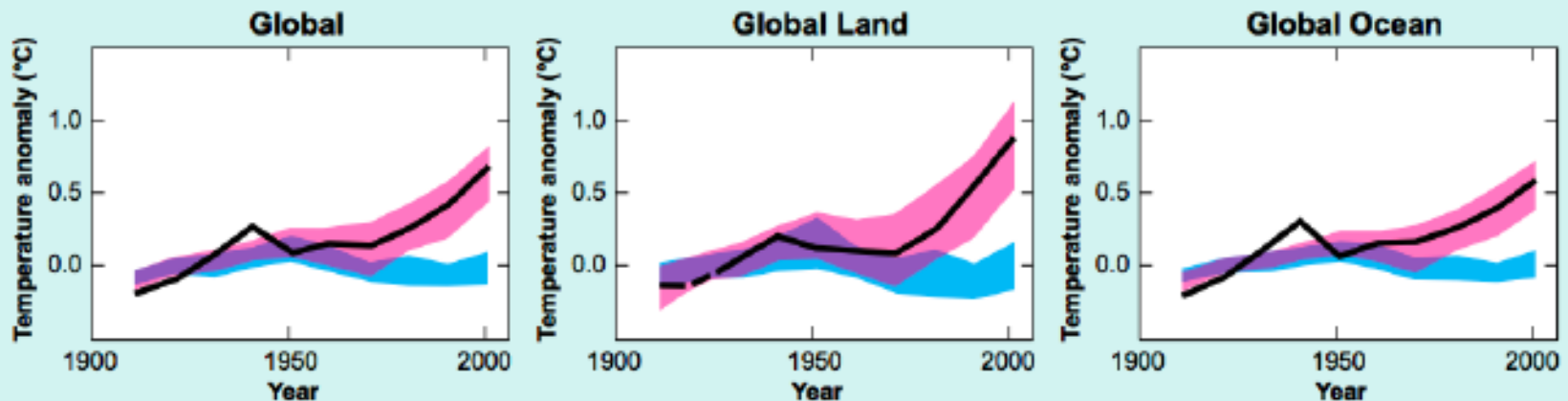
“Most of the observed increase in globally averaged temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations¹².”

“¹² Consideration of remaining uncertainty is based on current methodologies.”

Global and Continental Temperature Change



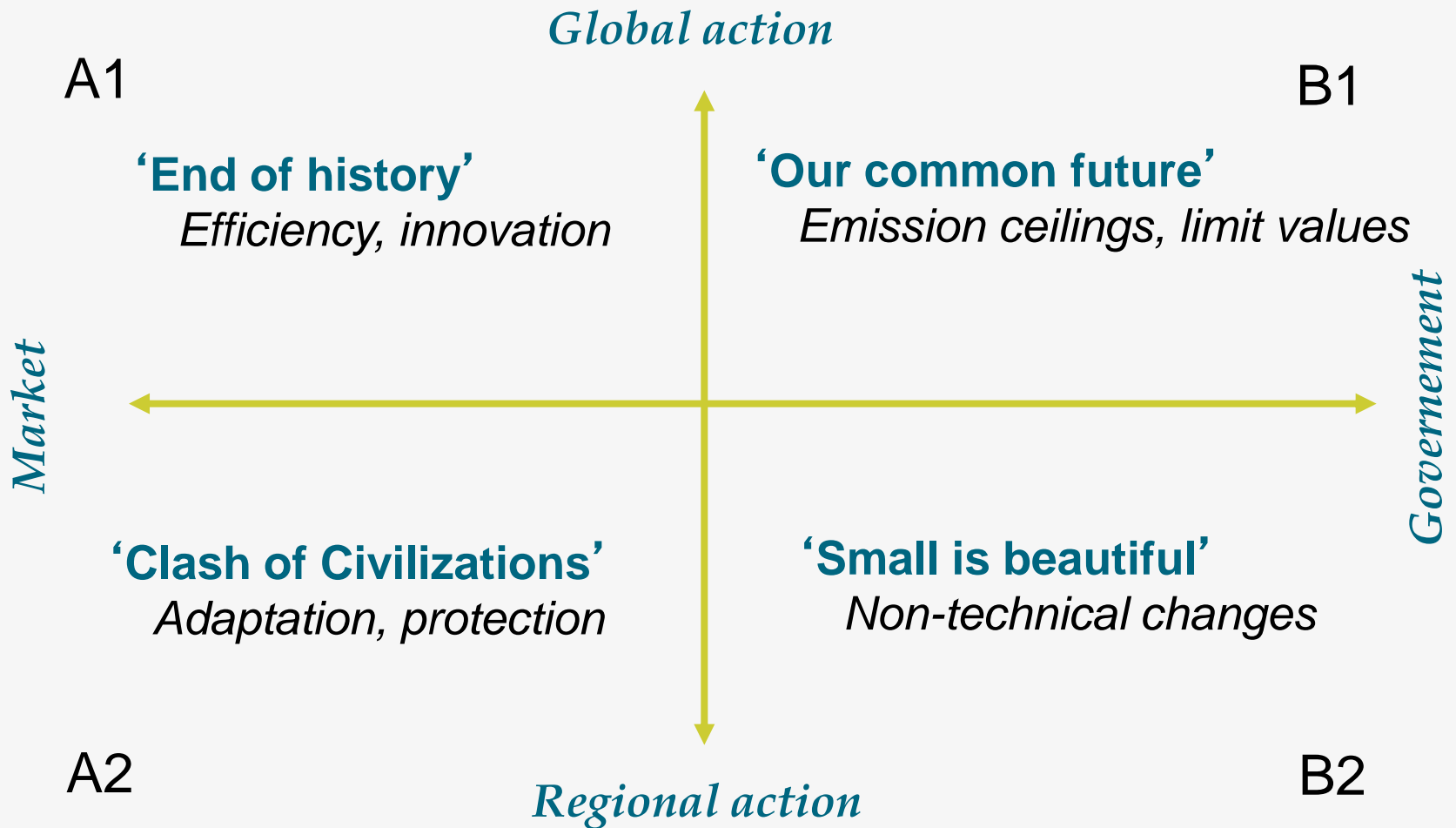
IPCC 2007: taking into account all uncertainties (including model uncertainty): largest part of warming is **‘very likely’** due to anthropogenic greenhouse gases



Worldviews



Worldviews



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“Wicked problems”

- Historians’ instincts: all problems are ‘wicked’.
- Often no consensus among historians as to causes and impacts of problems and policy
- Peculiarities of hindsight: every economic historian thinks past energy policy could have been better... but also can note that the ‘bad’ decisions of the past have never been a serious political issue.
- Something deficient in our ‘energy imaginary’?



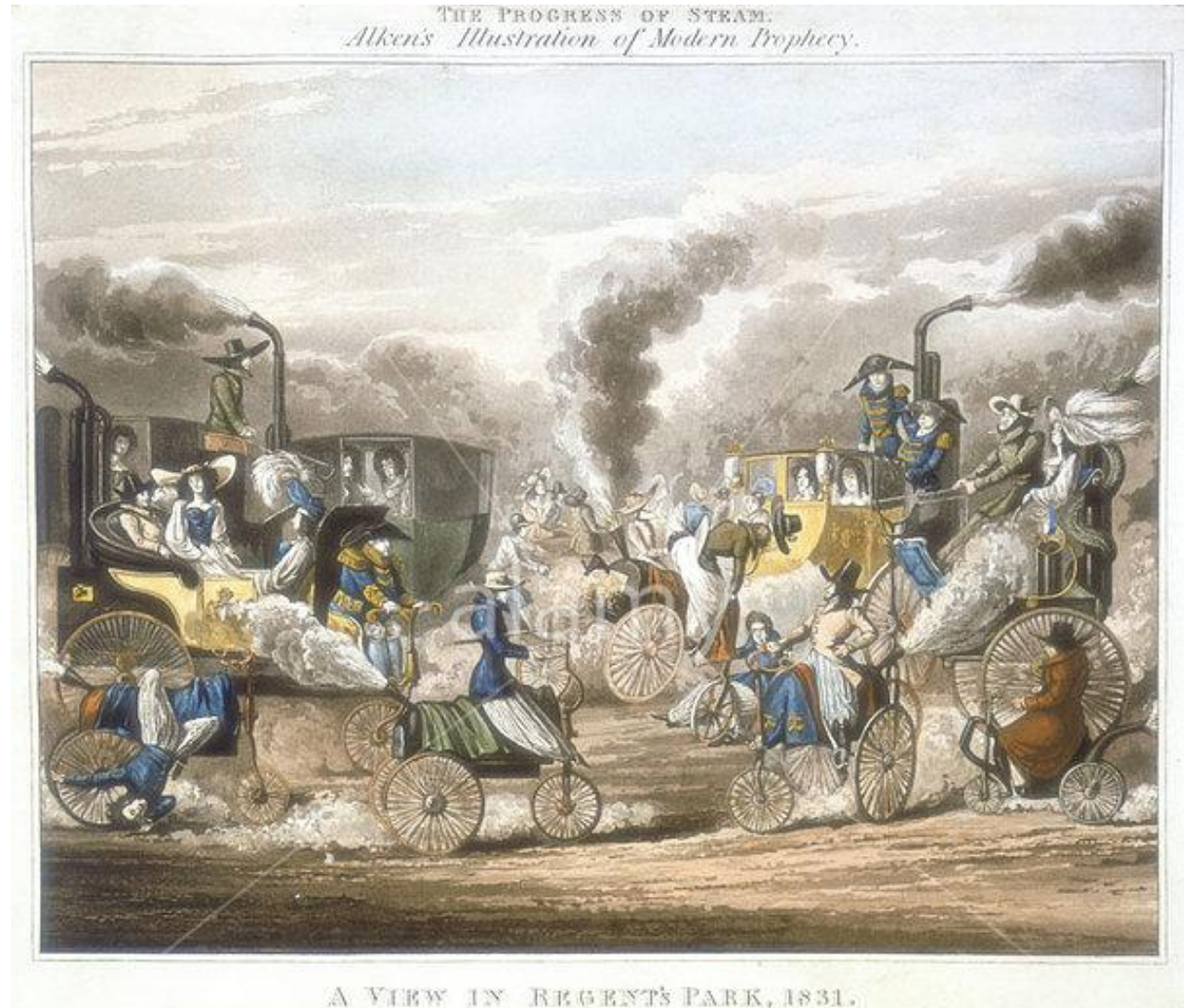
But.... is this actually a ‘wicked’ problem’?



The CO₂ intensity of Europe 1870-2008, kg per 1990 \$ (Kander, Malanima & Warde, 2013)

Some themes from a long view...

- Prediction
- Policy in context
- Regulation: clean air
- Stories and transitions



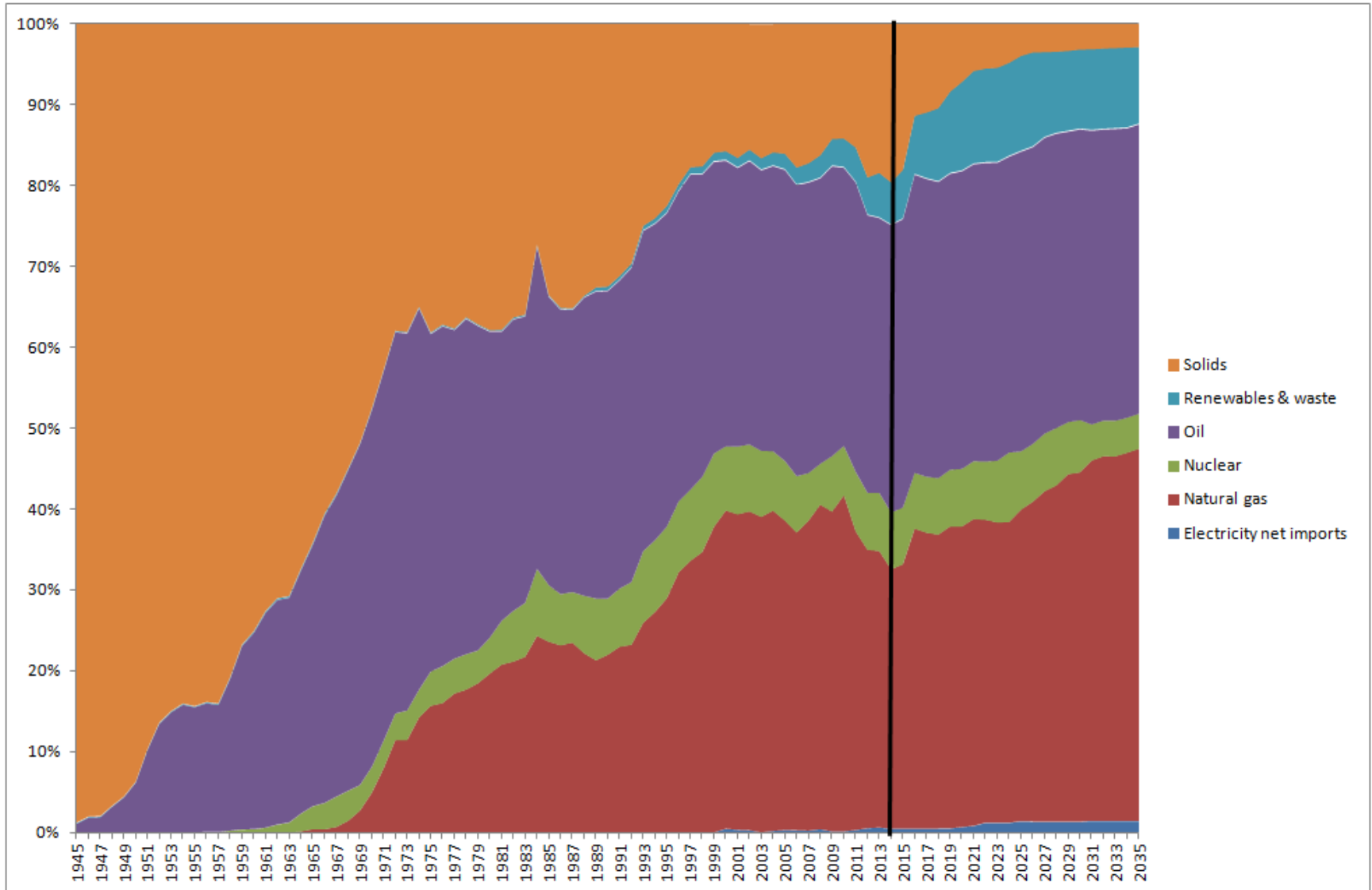
Predictions

- ‘all predictions are unreliable, particularly those concerning the future’ (E.F.Schumacher)
- Everyone gets it wrong:

Predictor: prediction	Period	Expected	Actual
Ridley: UK coal consumption	1952-63	14%	-7%
Imperial Oil: Canada energy consumption	1955-75	117%	147%
US Office of Science and Tech: US energy consumption	1968-2000	174%	56%
Kahn: world energy consumption	1975-2000	140%	61%
US Federal Power Comm: US gas demand	1980-1990	34%	-3%
UK Dept of Energy: UK energy consumption	1979-2000	18% (lowest)	1%

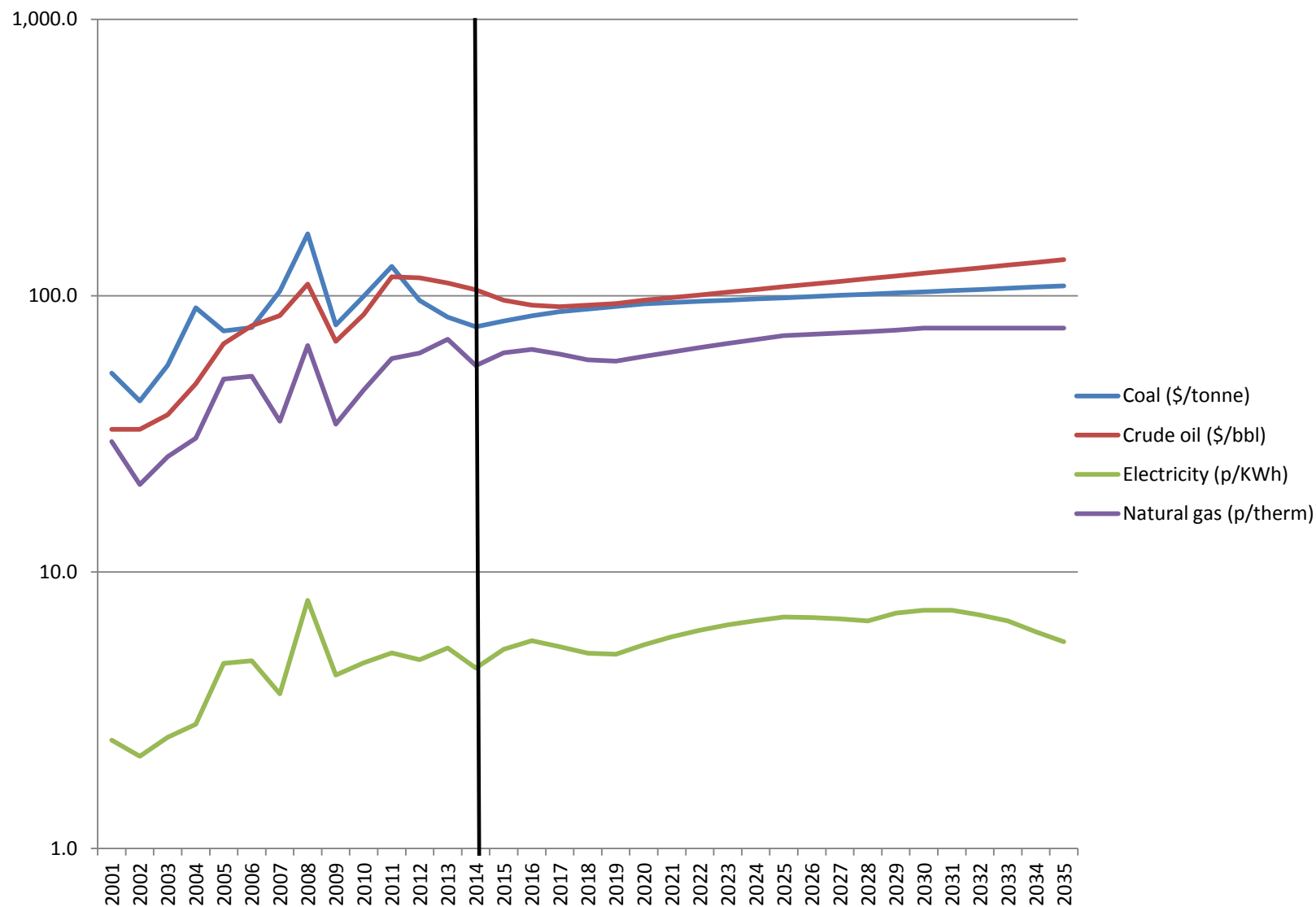
DECC vs History. UK Energy Mix 1945-2035

(existing policy scenario, September 2014)



Energy wholesale prices, 2000-35

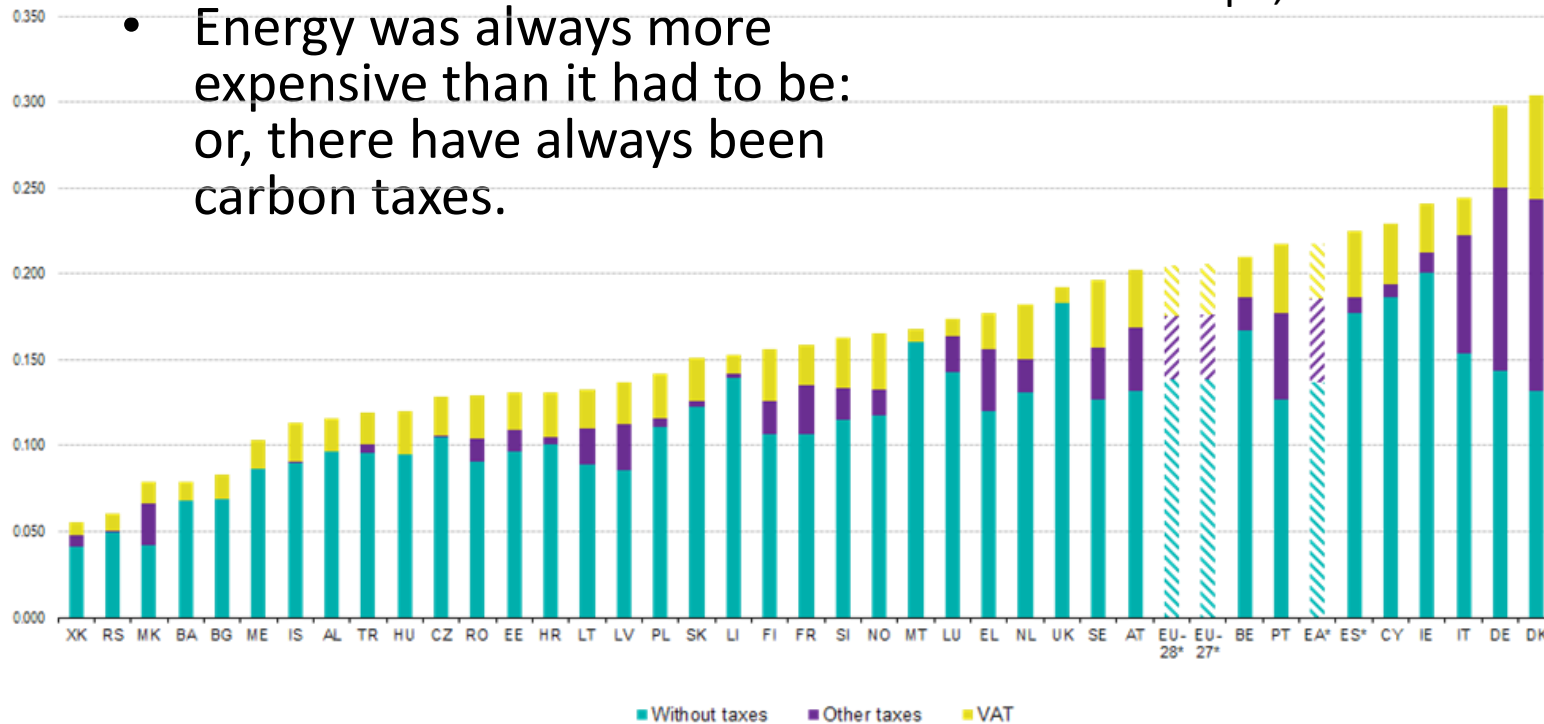
(DECC reference scenario 2014)



What influence did policy have on the energy regime?

- this is a government decision whichever way it is spun and whether they like it or not.
- Energy was always more expensive than it had to be: or, there have always been carbon taxes.

Household electricity prices in Europe, 2014

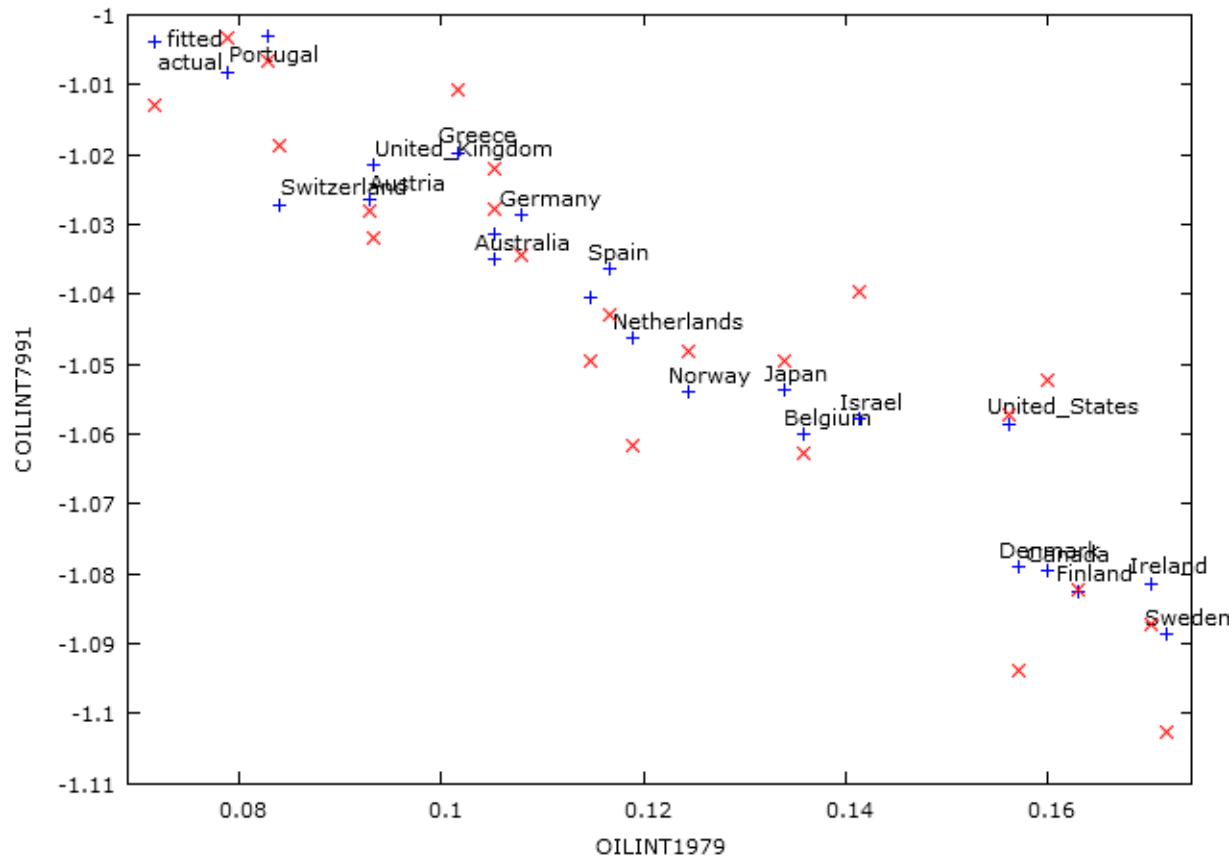


* provisional data 2014 s1

Source: Eurostat (online data code: nrg_pc_204)

1980s lessons? No incentive like vulnerability...

The change in oil intensity 1979-1991 and oil intensity in 1979.



Source: Lindmark & Acar (2015). *Periods of converging carbon dioxide emissions from oil combustion 1973-2004*. CERE

Clean air

- Over a century of activism, 1840s-1940s: limited effects, more pronounced on industry.
- No doubt at all over health impacts from late 19th century
- Failure of 'Voluntarist' exhortation.
- The Clean Air Act of 1956 – why? Or more interestingly, how?
- Response to impact of London smog of 1952
- Local Authority creation of smokeless zones, broad consensus of monitoring network and 70% of cost of converting to smokeless fuels borne by exchequer / local authority.

Lovely Manchester.

Stories

- People think in narratives: not answers to multi-choice questions
- What explained and propelled big transitions of the past?
- Electricity's appeal generated via the right to modernity *indoors*; linked to specific tasks around the home and the micro-management of time. Also precision of engineering.
- 'Modernity' associated with ugliness *outdoors*; desire for 'unspoilt' countryside already entrenched before 1914 and little changed since.
- Post-War

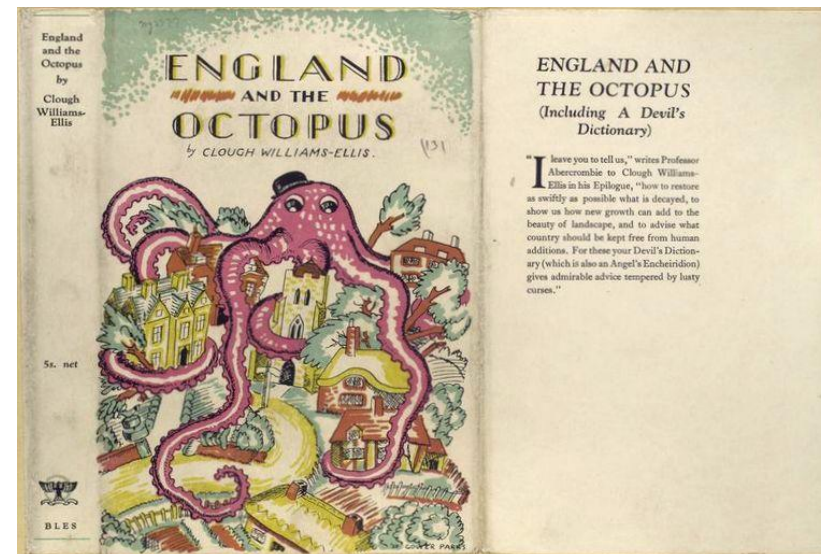
Progress in the Home



Hoover Limited take pride in the fact that their products are saving millions of housewives from hard, wearisome drudgery — not only in Britain but throughout the world. Wherever the name Hoover appears it is a guarantee of excellence.

THE WORLD-FAMOUS HOOVER CLEANER

The Hoover Cleaner, with its famous triple-action principle — “It Beats . . . as it sweeps . . . as it cleans” — is undeniably the world's best cleaner — best in design, best in materials, best in quality of workmanship. There is a model suitable for every size and type of home.



Suggestions

- I wonder if it would help debating what we should do next if someone could explain clearly how we got here? – public perceive energy to be a world of self-interested obfuscation (partly because it is true).
- All policymaking is based on integrating information into plausible stories based on historical experience. If policymaking is to be reflective... It should reflect on this.

... thanks for your attention. psw1000@cam.ac.uk

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